1. Nov/2022/Paper_13/No.3

Most companies use transaction files to update master files in their payroll systems. One part of the updating process is to calculate weekly or monthly pay. Another part is to update workers' personal and work details.

Without referring to the calculation of pay, describe the three types of transaction that would take place when workers' details are being updated. You must give an example for each type of transaction.

Transaction type 1: .....

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Example 1: .....

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Transaction type 2: .....

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Example 2: .....

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Transaction type 3: .....

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Example 3: .....

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[6]

2. Nov/2022/Paper_12/No.5

The owner of a book shop has created a database of her books. She will now test that it works. Some of the records are shown. The data shown contains the maximum and minimum values. There are only two types of book.

ISBN	Title	Author	Book_type	Copies
9781787632196	Blue Moon	Lee Child	H	4
9781858683416	Prelude to Foundation	Isaac Asimov	P	5
9780593072493	Inferno	Dan Brown	H	3
9781787461352	Revenge	James Patterson	P	2
9781529027488	One Good Deed	David Baldacci	H	5

(a) Describe, in detail, the **three** most appropriate validation checks, apart from a check digit, type check or presence check, that could be used to validate the data. For each validation check, your description should include the field it could be used for. Each validation check and each field must be different.

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[6]

(b) The owner will also need to verify the data in her database.

Using examples from the three fields you used in part **(a)**, explain why verification is needed in addition to validation.

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3. Nov/2022/Paper_13/No.4

Describe what is included in a management information system (MIS).

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4. June/2022/Paper_11/No.4

A supermarket uses a computer to automatically update stock levels. Each record in the **Product file** contains the fields shown.

Product file

Bar_code	Product	Number_in_stock	Reorder_level	Reorder_quantity	Supplier_ID
5022476130067	Oaters	131	130	250	B671841
0100108097858	Tea	182	130	310	A296593
0201570244453	Beans	317	212	450	C562148

When the Number_in_stock of a product item falls to the Reorder_level, that product must be reordered. The Reorder_quantity is the number of items of the product that must be reordered.

The **Supplier file** contains the contact details of all the suppliers.

Supplier file

Supplier_ID	Supplier	Contact
B671841	J Sullivan	js@cmail.co.ke
A296593	Bluants	bluants@hmail.ug
C562148	Golan	golan@smail.eg

Only some of the records in the Product and Supplier files are shown.

Describe, using the Oaters record as an example, the steps the computer would follow to update the Product file after a point of sale terminal reads the bar code for a packet of Oaters.

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5. June/2022/Paper_13/No.10

Normalisation is used when designing relational databases.

Discuss the advantages and disadvantages of normalisation.

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6. March/2022/Paper_12/No.6

A school secretary is updating a database by copying data from some hard copy records. Here are three of the records:

First_name	Family_name	Student_number	Previous_school	Date_of_birth
Jonathon	Odoki	12036	St Mary's	07/12/2004
Sven	Johansson	09132	The Grange	13/10/2007
Manjit	Sangherra	10102	Bluestars	11/03/2007

The Student_number will be stored as text, with the first two characters representing the year group the student belongs to.

The Student_number and Date_of_birth are the only data that need to be validated as they are entered. A range check, limit check or presence check would not be appropriate for validating these data.

(a) Describe, in precise detail, **three** appropriate validation checks that could be used to validate the data. Each validation check must be different.

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(b) As well as validation, verification will need to be carried out.

Explain why verification is needed in addition to validation. Use examples from your answers to part **(a)**.

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7. March/2022/Paper_12/No.10

(a) Define the following database terms.

(i) One-to-one relationship

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(ii) One-to-many relationship

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(iii) Compound key

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(b) Explain how a many-to-many relationship can be created in a database.

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